

## Safety data sheet

according to Regulation (EC) No 1907/2006



# TECAFIL PC FRT GF

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## 1. Identification of the substance/mixture and of the company/undertaking

**Product identifier:**

TECAFIL PC FRT GF10 black

**Relevant identified uses of the substance or mixture:**

Plastics/polymer processing (3D- based on Fused Filament Fabrication)

**Details of the supplier of the safety data sheet:**

Ensinger GmbH  
Rudolf-Diesel-Straße 8  
D - 71154 Nufringen  
Tel. +49 7032 819 0  
www.ensingerplastics.com

**Competent person:**

sdb@ensingerplastics.com

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## 2. Hazards identification

**Classification of the substance or mixture according to Regulation (EC) No 1272/2008 (CLP/GHS):**

The product is not classified as hazardous.

**Label elements:**

The mixture is not subject to specific labelling in accordance with GHS criteria.

**Other hazards:**

Contact with molten product may cause severe burns.

The mixture does not contain substances with a content of 0.1% or more that are classified as PBT or vPvB or have endocrine disrupting properties.

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## 3. Composition/information on ingredients

**Description of the mixture:**

Mixture based on polycarbonate (PC), CAS No 25037-45-0, 25971-63-5 or 103598-77-2.  
Containing flame retardants (halogen free).  
Containing glass fibres.  
Possibly containing additives and processing aids.

**Information on ingredients:**

Does not contain hazardous substances legally required for labelling.

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### 4. First aid measures

**After inhalation:**

After inhalation of thermal decomposition products, remove person from the danger zone. Oxygen supply, apply artificial respiration if necessary. Keep quiet, warm and seek medical help.

**After skin contact:**

After contact with molten polymer, immediately cool with cold water for a prolonged time. Remove affected clothing. Do not peel polymer from skin. Cover burns with sterile dressings. Burns caused by molten polymer must be treated in a hospital.

In case of skin irritation caused by glass fibres, wash skin thoroughly with cold water. Do not use warm water, as this will open the pores of the skin, thus enabling the fibres to enter more deeply. Do not rub or scratch. Remove contaminated clothing. In the event of persisting skin irritation seek medical help.

**After eye contact:**

After contact with molten polymer cool immediately with plenty of cold water. Contact an eye specialist.

**After ingestion:**

In case of persistent symptoms seek medical help.

**Most important symptoms and effects, both acute and delayed:**

No hazard is expected under intended use and appropriate handling.

**Indication of any immediate medical attention and special treatment needed:**

Treat symptomatically.

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### 5. Firefighting measures

**Suitable extinguishing media:**

Water spray, alcohol-resistant foam, carbon dioxide, dry chemical foam.

**Unsuitable extinguishing media:**

Water jet.

**Special hazards arising from the substance or mixture:**

With carbonization and incomplete combustion toxic gases develop, predominantly carbon dioxide and carbon monoxide. The development of further fission and oxidation products is dependent on the conditions of burning. Traces of other toxic substances may develop under certain conditions of burning.

May release dense black smoke, nitrogen oxides, hydrocarbons, aldehydes, organic acids, phenols, phosphorus oxides, traces of hydrogen cyanide and halogenated hydrocarbons.

**Advice for firefighters:**

If exposed to fumes and carbonization gases during fire-fighting measures, rescue operations and cleanup wear a self-contained breathing apparatus.

The product ignites in a flame and continues to burn on removal of the source.

In an advanced state of fire, the molten polymer must be cooled with water. Water used to extinguish the fire and fire remainders must be collected and water disposed of, in accordance with local regulations.

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### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**

Collect product (Danger of slipping).

**Environmental precautions:**

Let not enter surface water and sewage water system.

**Methods and material for containment and cleaning up:**

Mechanical cleaning up.

Avoid dry sweeping. Use an appropriate suction device for cleaning to avoid the generation of dust.

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### 7. Handling and storage

**Precautions for safe handling:**

Avoid overheating of material by improper handling.

The relevant information on the technical data sheet have to be respected.

Under high processing temperatures and/or excessively long residence harmful gases and vapours might develop.

Use with adequate ventilation. Local exhaust ventilation should be provided.

General industrial hygiene regulations are to be observed.

Wash hands before breaks and at the end of workday.

Food should not be kept in the workplace.

Do not eat, drink or smoke in the work area.

**Conditions for safe storage, including any incompatibilities:**

The appropriate company regulations for fire prevention are to be followed.

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### 8. Exposure controls/personal protection

**Control parameters:**

The general limit for dust is valid.

**Exposure controls:**

The working area should be well ventilated.

**Respiratory protection:**

If technical measures are insufficient, protective breathing apparatus must be worn. Use dust mask with at least filter type P2 (DIN EN 140/142/143) or filter apparatus with ventilator and helmet or hood, at least TH2P (DIN EN 12941).

**Eye/face protection:**

Safety glasses with side-shields

**Hand protection/skin protection:**

Wearing of gloves, for example gloves made from leather (DIN EN 388), is recommended for people with sensitive skin.

Skin protection should be used (barrier cream containing tanning agent).

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### 9. Physical and chemical properties

**Appearance:**

solid (monofilament)

**Melting point/Melting range:**

ca. 150 °C

**Relative density:**

> 1 g/cm<sup>3</sup>

**Flash point:**

N/A (solid)

**Flammability (solid, gas):**

N/A

**Vapour pressure:**

N/A (solid)

**Solubility(ies):**

insoluble (water, 20 °C)

**Auto-ignition temperature:**

N/A

**Viscosity:**

N/A (solid)

**Oxidising properties:**

N/A

**Other information:**

No data available.

**Odour/odour threshold:**

product-specific

**Initial boiling point and Boiling range:**

N/A (solid)

**pH (20 °C):**

N/A (solid)

**Evaporation rate:**

N/A

**Upper/lower flammability or explosive limits:**

N/A

**Vapour density:**

N/A

**Partition coefficient: n-octanol/water:**

N/A

**Decomposition temperature:**

> 330 °C

**Explosive properties:**

no data available

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### 10. Stability and reactivity

**Reactivity:**

No hazardous reactions known when stored and handled according to instructions and used for its intended purpose.

**Chemical stability:**

Product is stable. No hazardous reactions known when stored and handled according to instructions and used for its intended purpose.

**Possibility of hazardous reactions:**

No hazardous reactions known when stored and handled according to instructions.

**Conditions to avoid:**

Do not heat to a temperature above the processing temperature.

**Incompatible materials:**

Strong oxidizing agents.

**Hazardous decomposition products:**

Under recommended processing conditions, process vapours released may contain traces of hydrocarbons, phenols, alkylphenols, diaryl carbonates and halogenated hydrocarbons.

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### 11. Toxicological information

**Acute toxicity:**

Contact with molten product can cause burns.

**Chronic toxicity:**

The glass fibres contained in this product are chopped glass fibres.

Chopped glass fibres are classified as not carcinogenic. Their diameter is larger than 3 µm and they are therefore not respirable (definition of World Health Organisation WHO). Chopped glass fibres do not possess cleavage planes which would allow them to split lengthwise into fibres with smaller diameters, rather they break across the fibres, resulting in fibres which are of the same diameter as the original fibre with a shorter length. The critical fibre geometry is therefore almost never reached.

For your information: The carcinogenic influence of fibres (so called WHO fibres) largely depends on the fibre geometry and the bio-persistence. If the fibre diameter (d) is smaller than 3 µm and the fibre length (l) larger than 5 µm and l/d ratio greater than 3, then the fibre may enter the upper respiratory tract, accumulate there and in case of sufficient bio-persistence cause serious lung diseases.

**Other information:**

In our experience and according to the literature provided to us the product does not cause any noxious effects when used and handled according to regulations.

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### 12. Ecological information

**Toxicity:**

Data about ecological effects are not available for this product.

**Persistence and degradability:**

No data available.

**Bioaccumulation potential and mobility in soil:**

Biodegradability is not probable due to the consistency as well as the insolubility in water of the product.

**Results of the PBT and vPvB assessment:**

The product does not fulfil the criteria for classification as PBT or vPvB.

**Other adverse effects:**

No relevant information available.

Due to the consistency of the product a disperse distribution in the environment is not likely. Therefore, according to the present state of knowledge negative ecological effects are not expected.

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### 13. Disposal considerations

**Waste treatment methods:**

Product residues can be recycled or treated in an energy recovery plant.  
When segregated, unpolluted product residues can be recycled mechanically.

**European waste catalogue:**

The unpolluted product has no dangerous properties and is therefore not a hazardous waste within the meaning of regulation on the European List of wastes.

**Waste codes/waste identification:**

The exact waste code must be carried out source- and use-related.  
Proposals for the waste code numbers based on the probable use of the unpolluted product:  
07 02 13 (waste plastic)  
20 01 39 (plastics from separately collected fractions)

**Packaging:**

Uncontaminated or cleaned packaging can be recycled without verification.

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## 14. Transport information

Not classified as dangerous in the meaning of transport regulations.

**UN number:**

Not applicable.

**UN proper shipping name:**

Not applicable.

**Transport hazard class(es):**

Not applicable.

**Packing group:**

Not applicable.

**Environmental hazards:**

Not applicable.

**Special precautions for user:**

No special precautions.

**Transport in bulk according to Annex II of Marpol and the IBC Code:**

Not applicable.

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## 15. Regulatory information

**Safety, health and environmental regulations/legislation specific:**

A safety data sheet for this article is not required by law. The particulars given in this Safety Data Sheet are not required in accordance with article 31 and annex II of the Regulation (EC) No 1907/2006. They merely serve the purpose of providing sufficient information on the voluntary basis with a view to ensure the safe utilization of such mixture.

**EU regulations:**

No dangerous substance in the sense of EU-directives.

**Chemical safety assessment:**

A chemical safety assessment has not been carried out.

**National regulations:**

Storage class TRGS 510 (Germany): 11 (flammable solid materials)

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### **16. Other information**

**The full text of hazard statements:**

No H-phrases listed in the document.

**Indication of changes:**

First issue, status as of 07/24.

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Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values. They do not represent guaranteed properly values and therefore they must not be used for specification purposes. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. It is the user`s responsibility to ensure that existing legislation and regulation are followed.